

CLAIMS

I claim:

- 5 1. A bituminous composition comprising a mixture of bitumen and
a soybean product of soybean oil, or alkyl esters of soybean oil, wherein the
mixture comprises 15.0 to 40.0 weight percent of the soybean product.
- 10 2. A bituminous composition according to claim 1 wherein the
mixture comprises 20.0 to 30.0 weight percent of the soybean product.
- 15 3. A bituminous composition according to claim 1 wherein the
soybean product is soybean oil.
- 20 4. A bituminous composition according to claim 1 wherein the
soybean product is an alkyl ester of soybean oil.
- 25 5. A bituminous composition according to claim 1 wherein the
soybean product is a combination of soybean oil and alkyl esters of soybean
oil.
- 30 6. A bituminous composition according to claim 1 wherein the
soybean product is a methyl ester of soybean oil.
7. A bituminous composition according to claim 6 wherein the
mixture comprises 24.0 weight percent of the methyl ester of soybean oil.
8. A bituminous composition according to claim 1 wherein the
bitumen is an asphalt.
9. A bituminous composition according to claim 1 wherein the
bitumen is a mixture of asphalts.

10. A bituminous composition according to claim 1 wherein the soybean product comprises:

	<u>Component</u>	<u>Weight Percent</u>
	soybean oil	20.0 to 80.0
5	akyl esters of soybean oil	10.0 to 60.0
	d-limonene	10.0 to 40.0
	other turpentine hydrocarbons	0 to 40.0

11. A bituminous composition according to claim 1 wherein the soybean product comprises:

	<u>Component</u>	<u>Weight Percent</u>
	soybean oil	20.0 to 40.0
	alkyl esters of soybean oil	40.0 to 60.0
	d-limonene	0 to 20.0
15	other turpentine hydrocarbons	10.0 to 40.0

12. A bituminous composition according to claim 1 wherein the composition is emulsified.

13. A bituminous composition according to claim 1 wherein the composition is saponified.

14. A sealing and rejuvenating composition for bituminous and concrete surfaces comprising the bituminous composition of claim 1.

15. A method of stabilizing paving aggregate by treating a quantity of aggregate to be stabilized with 1 to 3 percent by weight, based on the weight of the aggregate, with the bituminous composition according to claim 1.

16. A method according to claim 15 including the step of applying the bituminous composition to the aggregate at a rate of 0.03 to 0.30 gallon per square yard of the aggregate.

5 17. A method according to claim 15 including the step of applying the bituminous composition to the aggregate at a rate of 0.10 to 0.20 gallon per square yard of the aggregate.

10 18. A method according to claim 15 including the step of applying sand to the treated aggregate at a rate of 0.5 to 2 pounds of the sand per square yard of the treated aggregate.

15 19. A method according to claim 15 including the step of applying sand to the treated aggregate at a rate of 0.5 to 1 pound of the sand per square yard of the treated aggregate.

20 20. A method for treating and sealing of various pavement cracks within asphalt and concrete pavements with or without applying sand including the step of filling the pavement cracks with the bituminous composition according to claim 1.

25 21. A bituminous composition comprising a mixture of bitumen and a soybean product of soybean oil, or alkyl esters of soybean oil, wherein the mixture comprises 40.0 to 80.0 weight percent of the soybean oil product.

 22. A rejuvenating composition for bituminous surfaces comprising the bituminous composition of claim 21.

30 23. A method for rejuvenating bituminous surfaces comprising the steps of heating the bituminous surfaces in place and rejuvenating the heated surfaces with the bituminous composition of claim 21.

24. A method for rejuvenating bituminous surfaces comprising the steps of removing the bituminous surfaces and rejuvenating the removed surfaces at a manufacturing facility for use in road base, shoulder or new pavement surfaces with the bituminous composition of claim 21.